

ABSTRACT

A method of fabricating a transistor of a semiconductor device is disclosed. The method of fabricating a transistor comprises forming a sacrificial layer on a substrate; forming a source/drain region in the substrate by performing a first ion implantation using the sacrificial layer as a mask; forming a barrier layer over the substrate with the sacrificial layer; removing a portion of the sacrificial layer to form an opening through which a portion of the substrate is exposed; performing a second ion implantation using the opening as a mask to implant ions for adjustment of a threshold voltage of the substrate; forming a gate electrode on the substrate exposed through the opening; and performing a third ion implantation to adjust doping concentration in the gate electrode. Accordingly, the present invention can reduce the occurrences of a short channel effect and a reverse short channel effect in a transistor.